TETRA TECH

June 18, 2021

Ms. Jamie-Bernard-Drakey
EPA Kansas Site Assessment Manager
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Subject: **Pre-CERCLA Site Screening Report**
Five Dry Cleaner Sites, Garden City, Kansas
U.S. EPA Region 7 START 5, Contract No. 68HE0719D0001
Task Order No. 19F0065.003
Task Monitor: Jamie Bernard-Drakey, EPA Kansas Site Assessment Manager

Dear Ms. Bernard-Drakey:

Tetra Tech, Inc. is submitting the attached Pre-Comprehensive Environmental Response, Compensation, and Liability Act Site Screening (PSS) report regarding Five Dry Cleaner sites in Garden City, Kansas. If you have any questions or comments, please call me at (816) 412-1771.

Sincerely,

Jenna Mead

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Enclosures

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PRE-CERCLA SITE SCREENING REPORT

FIVE DRY CLEANER SITES

GARDEN CITY, KANSAS

Superfund Technical Assessment and Response Team (START) 5 Contract

Contract No. 68HE0719D0001, Task Order 19F0065.003

Prepared For:

U.S. Environmental Protection Agency
Region 7
Superfund Division
11201 Renner Boulevard
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June 18, 2021

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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division tasked the Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) to assist with a Pre-Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Screening (PCS) at Five Dry Cleaner sites in Garden City, Kansas. This PCS, in response to known factors regarding possible threats to health and environment posed by the dry cleaner sites, occurred to determine if further CERCLA response would be warranted.

Tetra Tech's tasks included (1) review of existing and relevant documents associated with the site, and (2) completion of a PCS Checklist/Decision Form. Jenna Mead was the START Project Manager, and the EPA Region 7 Site Assessment Manager was Jamie Bernard-Drakey.

A Kansas Dry Cleaner Inventory prepared by START in 2020 identified about 18 facilities listed in city directories for Garden City, Kansas, where dry cleaning operations had occurred (Tetra Tech 2020). START reviewed available information regarding these dry cleaning facilities, and selected five sites for this PCS. Selection of these five sites was based primarily on dry cleaners there having operated over about a 10-year period between approximately 1950 and 2000. During that time period, tetrachloroethene (PCE) was commonly used as a dry cleaning solvent, but regulations regarding proper disposal of waste PCE were not in effect or facility owners might not have been fully familiar with regulatory compliance. Facilities known to use PCE, including coin-operated dry cleaning facilities, were included in this PCS even if they had operated for fewer than 10 years. START also reviewed the Kansas Department of Health and Environment (KDHE) Environmental Interest Website and associated online files pertaining to Garden City in order to exclude dry cleaning sites that previously had been investigated (KDHE 2021).

2.0 SITE LOCATION AND BACKGROUND

Section 2.0 specifies the site location; provides information about the geological and hydrogeological setting, and waste characteristics of PCE; summarizes previous investigations related to dry cleaning sites in Garden City; and furnishes available information regarding the selected dry cleaning facilities.

2.1 SITE LOCATION AND DESCRIPTION

Garden City (City) is on the north bank of the Arkansas River in Finney County, Kansas (see Appendix A, Figure 1), and according to the 2010 census, had a population of 26,658 (U.S. Census Bureau 2021). The City is in southwestern Kansas within the High Plains Physiographic Province, about 60 miles north of Oklahoma and east of Colorado. Elevations in the City generally range from about 2,830 feet above mean sea level (AMSL) at the east to 2,850 feet AMSL at the west, and continue to increase proceeding farther west into the High Plains. Sandhills are present south of the Arkansas River, with elevations rising to about 2,900 feet AMSL. Most of downtown Garden City is within Sections 4 through 9 and 15 through 19 in Township 24 South (T24S), Range 32 West (R32W) and Sections 12 and 13 of T24S, R33W. The City appears on the 7.5-minute topographic quadrangle maps of East and West Garden City, Kansas (U.S. Geological Survey [USGS] 1983a, b). The Garden City Public Water Supply (PWS) provides potable water to the population; however, most of those residing outside of city limits obtain their water from community PWS systems, such as those for subdivisions and mobile home parks, Finney County Rural Water District (RWD) 1, or private domestic wells. Wheatfield Electric Cooperative (Wheatfield) PWS wells also provide water to Garden City and other PWSs. Two of Wheatfield's 18 wells are within Garden City.

2.2 GEOLOGY AND HYDROLOGY

Garden City is on the north bank of the Arkansas River in central Finney County, Kansas. The Kansas geological map of the area indicates presence of Quaternary-aged (late Pleistocene and Holocene) alluvium along the Arkansas River, and most of Garden City overlies the alluvial aquifer. Quaternary dune sand (sandhills) are south of the alluvial valley, and Quaternary loess (High Plains tableland) is to the north—both overlying alluvial deposits and/or the Tertiary Ogallala Formation (Kansas Geological Survey [KGS] 2021a). The loess (windblown silt) is generally about 10-30 feet thick and overlies calcareous silt, sand, and gravel of the Ogallala Formation (U.S. Department of Agriculture [USDA] 1965). Older Cretaceous-aged rocks including the Niobrara Chalk, Carlile Shale, Greenhorn Limestone, and Graneros Shale outcrop in some of the deeper valleys in the County.

The alluvial deposits and the Ogallala Formation are part of the High Plains Aquifer, the principal aquifer of the County. Groundwater flow in the shallow alluvial aquifer generally is toward and with the river's flow to the east-southeast. Groundwater flow in the Ogallala Aquifer is generally east or east-southeast. The Cretaceous rocks of the Dakota Formation, Kiowa Formation, and Cheyenne Sandstone, which underlie the Graneros Shale, form the Dakota Aquifer, which is also called the Maha Aquifer of the Great Plains Aquifer System. Groundwater flow in the Dakota Aquifer is northeast toward its discharge area in north central Kansas (KGS 2014). Pumping wells may influence local groundwater flow directions.

The City is situated on soils classified as the Las clay loam that develop on loamy alluvium over sandy and gravelly alluvium. These are deep to moderately deep soils having 0- to 1-percent slope that are occasionally flooded. Most soils south of the Arkansas River have developed on eolian sands; north of the City, soils have developed on loess (USDA 2021).

The City of Garden City PWS provides 68 percent of the water supplied to a population of 26,408 from groundwater supplied by 17 wells. The remaining 32 percent is from groundwater purchased from other PWSs (Kansas Drinking Water Watch 2021). Seven of the Garden City PWS wells are in the sandhills south of the City, and 10 are inside city limits. Three wells produce groundwater from sandstones of the Cretaceous Dakota Aquifer, and the other 14 wells produce groundwater from the Ogallala sands and gravels of the High Plains Aquifer. Of the 10 wells within the City, three are listed as inactive/emergency wells, and two are listed as inactive/non-PWS (Kansas Drinking Water Watch 2021). The drillers log for a 1984 PWS well in the central portion of the City describes alternating sands and clays to about 270 feet below ground surface (bgs), then Cretaceous clays/shales, and then limestones to total depth of 660 feet bgs. It notes that groundwater is produced from the Dakota sandstone at 560-657 feet bgs, and specifies a static water level (SWL) of 122 feet bgs (KGS 2021b). In contrast, the log for a PWS well in the High Plains Aquifer indicates a total depth of 353 feet bgs and an SWL of 120 feet bgs. Domestic wells in the area appear to be about 150-350 feet deep, with SWLs between about 50 and 85 feet bgs. Monitoring wells appear to range from about 39 to 70 feet bgs, and have SWLs of about 31 to 55 feet bgs (KGS 2021b).

Review of well records identified several domestic or domestic lawn and garden wells within about 0.5 mile of a current or former dry cleaning facility. SWLs of these wells ranged from about 32 to 65 feet bgs, and well depths ranged between 130 and 250 feet bgs. Notably, older SWLs may not represent current conditions due to aquifer depletion or drought causing water levels to drop.

Numerous oil and gas wells are in the Garden City area. Gas wells generally produce from the Permian Chase Group at depths of about 2,500 feet bgs, while oil production well depths appear to be about 4,500 to 5,000 feet bgs and terminate in Pennsylvanian and Mississippian rocks (KGS 2021c).

2.3 KANSAS DRY CLEANER INVESTIGATIONS IN GARDEN CITY

The KDHE Environmental Interest Finder Map for Garden City identified four dry cleaners in the Kansas Dry Cleaner Program. Three of these are currently active: Streeter Cleaners (628 N. 8th Street), Stroh Cleaners (2501 Fleming Street), and Garden City Specialty Cleaners (1808 E. Kansas Avenue). The fourth of these, Raleys Quality Cleaner (801 N. Main Street), has closed. Of these, only the Stroh Cleaners site is on the Kansas Identified Site List (ISL).

An investigation of potential source areas including Stroh Cleaners occurred in the 1990s after detection of PCE in municipal Well #10 less than 1 mile southwest of this dry cleaner. A 1997 Expanded Site Assessment (ESA) triggered by discovery of the PCE contamination at Well #10 (screened in the Ogallala Formation at about 160-180 feet bgs) noted previous disposal of PCE wastes to the sanitary sewer at the Stroh Cleaners facility, and direct-push technology (DPT) groundwater sampling detected PCE at a maximum 76.2 micrograms per liter (µg/L) near the private sewer line at the facility. Groundwater samples collected from Well #10 had PCE concentrations up to 22 µg/L (mobile laboratory result). PCE was detected at 1.2 µg/L in a sample from a private well. Two KDHE monitoring wells installed into the Ogallala near Well #10 also were found to contain PCE; however, PCE was not detected in two other KDHE monitoring wells screened in the shallow alluvial aquifer. The source of the PCE contamination was uncertain; however, the report concluded that Stroh Cleaners could not be ruled out as a potential source. No further reports were available for review (KDHE 2021). Well #10 is listed as decommissioned (Kansas Drinking Water Watch 2021).

The Garden City Laundry at 410 N. 8th Street is also in the Kansas ISL, as shown on the Kansas Environmental Interest Finder Map. Investigation of this facility in the mid-to-late 1990s identified it as the likely source of PCE contamination in Well #18, about 0.25 mile southeast of this former dry cleaner. Well #18 reportedly had contained low PCE concentrations since the 1980s. A soil vapor extraction and air sparging system installed in 2000 was shut down in 2002 when concentrations of contaminants dropped below maximum contaminant levels (MCL). The site was subjected to long-term monitoring beginning in 2002, and the remediation system and most monitoring wells were decommissioned in 2005. Of the four remaining monitoring wells, the two shallower wells (about 27 feet bgs) were dry during sampling in 2006. The two deeper monitoring wells (about 38 feet bgs) were also dry during a sampling attempt in 2017.

A 2019 Work Plan specified decommission of all four wells and installation of two 250-foot, 4-inch-diameter monitoring wells with 50-foot screens. No other documents were available for review on the KDHE Interest Finder Map website (KDHE 2021). KGS well records verify decommission of the four original monitoring wells in February 2020 and installation of new KDHE wells in May 2020. One 242-foot, 4-inch-diameter well was drilled on site and screened from 192 to 242 feet bgs; SWL was 107 feet bgs. A second KDHE well was placed about 1,000 feet (2.5 blocks) east of the former dry cleaner. It was 244 feet deep and screened from 194 to 244 feet bgs; SWL was 86 feet bgs (KGS 2021b).

The Penney/Strohs site at 100 N. Main Street is considered a contaminant plume commingled with the primary plume sourced from the Garden City Laundry site that impacted PWS Well #18. Comprehensive investigations occurred in the mid-to-late 1990s at both sites, but documents are not available for review at the KDHE Interest Finder website (KDHE 2021). PWS Well #18 is listed as an inactive/emergency well; it apparently produces groundwater from the Ogallala Aquifer.

The Garden City Volatile Organic Compounds (VOC) site is in an industrial area of southeast Garden City, generally south of U.S. Highway 50 (E. Fulton Street), east of Anderson Street, and west of Fleming Street. The site was discovered in 2002 when PCE and trichloroethene (TCE) were detected in monitoring wells at a nearby fuel contamination site. Initial investigation covered about a half-mile area along E. Fulton Street extending from Hudson Street (west) to JC Street (east). PCE concentrations up to 73 µg/L were detected in groundwater during a 2003 preliminary investigation, but no soil contamination was identified. Seven monitoring wells (about 49 feet bgs) were installed in 2006, with four downgradient of two adjoining automotive shops (Bulldog Automotive and Midwest Body Shop), and the site was placed in the Orphan Sites Program for long-term monitoring. The building occupied by the two automotive shops formerly had hosted Garden City Uniform and Linen Rental, which likely had performed dry cleaning operations. PCE concentrations up to 430 µg/L were detected during subsequent sampling events through 2015. Due to dropping groundwater levels, three deeper monitoring wells were installed to about 93 feet bgs in 2018. The latest sampling event occurred in August 2020, when PCE was detected at a maximum of 20.8 µg/L in a shallow monitoring well west (upgradient) of the adjoining buildings. PCE was detected at 7.69 µg/L in the shallow well just downgradient of the buildings, and at 4.47 µg/L in the nearby deep well. No PCE was detected in the two deep wells about 300 feet farther downgradient.

2.4 SELECTED DRY CLEANERS AND SITE HISTORY

Two active dry cleaners and three former dry cleaner sites in Garden City were selected for this PCS. The site names, addresses, Global Positioning System (GPS) coordinates at the approximate centers of the

respective sites, and known years of operation are listed in Table 1. Figure 2 in Appendix A shows site locations. One of these buildings (801 N. Main Street) has been demolished and replaced by a newer building and parking lot.

TABLE 1

FORMER DRY CLEANERS INCLUDED IN PCS
FIVE DRY CLEANER SITES – GARDEN CITY, KANSAS

Facility Name	Address	Latitude (Degrees North)	Longitude (Degrees West)	Years of Operation
Acme Cleaners	110 W. Fulton St.	37.96557	100.87486	1946-1970
Cleaver Cleaners/Raley's Quality Cleaners	801 N. Main St.	37.97197	100.8728	1965-2001
Garden City Specialty Cleaners	1808 E. Kansas Ave.	37.97449	100.85005	1991-present
Sterling Cleaning Center Norge Village	605 Kansas Plaza	37.97536	100.75495	1962-1971
Streeter Cleaners	628 N. 8th St.	37.97164	100.8749	1955-present

The following paragraphs summarize the sites listed in Table 1.

Acme Cleaners – 110 W. Fulton Street

This building hosts current addresses of 106, 108, and 112 W. Fulton Street. It is listed in the Downtown Garden City Historic Resources Survey as dating to 1935 and having been the locations of Elite Café, Acme Cleaners, and Ace High Barber Shop (Spencer Preservation 2011). A 1929-1950 Sanborn fire insurance map shows a separate dry cleaning building south of the 106-112 W. Fulton Street building where an addition to the building at 119 N. Main Street occurred (ProQuest, LLC 2021). Both properties are listed as owned by the Finnup Foundation Trust at the 119 N. Main address (Finney County 2021). The 106 W. Fulton building is identified as a Family Crisis Center. The closest residences are about 600 feet west (upgradient). The closest downgradient residences are about 800 feet east of the former dry cleaner. This site is about 800 feet southwest of PWS Well #18. Three active and three inactive (one emergency use) PWS wells are within 1 mile of the site. No previous investigations of this site have been identified; however, a 2005 memorandum from KDHE mentions inclusion of Acme Cleaners in a 1997 investigation of dry cleaning sites regarding contamination in PWS wells #10 and #18 (KDHE 2021).

Cleaver Cleaners – 801 N. Main Street

In about 1965, this building was constructed to host Cleaver Cleaners, and City directories listed Cleaver Cleaners, Raley's Cleaners, or Raley's Quality Cleaners at this address from 1965 until 2001. Newspaper

archives indicate that Bob Cleaver previously had owned and operated Sally-Ed Cleaners at 401 N. 8th Street from 1952-1964, and changed the business name with construction of his new building. A 1961 advertisement for Bob Cleaver's Sally-Ed Cleaners cited use of "deodorized APCO 125" solvent at that time (NewspaperArchive 2021). APCO 125 is a petroleum solvent produced by Anderson-Prichard Oil Company. Cleaver's new dry cleaner plant at 801 N. Main Street opened in May 1965. About 1976, Mr. Cleaver retired, and Ray Raley (a Cleaver Cleaners employee) leased and later purchased the business that became Raley's Cleaners. Mr. Raley retired in 2001, and an auction of the Raley's Cleaners equipment occurred in April 2001. A Western Eagle Petroleum Dry Cleaning machine was listed among the items to be auctioned (NewspaperArchive 2021), but PCE could have been used in a machine not auctioned or as a spot cleaning agent.

Aerial photographs show the dry cleaner building near the southeast corner of the property, prior to its demolition in about 2003. The northern and central part of the current 1- and 2-story office complex at 801-805 N. Main Street dates to 1999, while the southern part (where the dry cleaner building formerly stood) dates to 2004. The property is owned by Green Properties at 805 N. Main Street, Suite 2 (Finney County 2021). The closest residences are across the alley, about 100 feet west of the former dry cleaner. The closest residences downgradient to the east are apartments about 200 feet northeast of the former facility.

Raley Quality Cleaners (801 N. Main Street) was registered with KDHE as a dry cleaner on March 23, 1998, and is listed as closed. This site is about 0.72 mile southwest of former PCE-contaminated Well #10. Two active and three inactive PWS wells (two emergency use) are within 1 mile of the site. No previous investigations of this site have been identified (KDHE 2021).

Garden City Specialty Cleaners – 1808 E. Kansas Avenue

This is an active dry cleaner using PCE for dry cleaning. The facility opened in 1991, owned and operated by Quang Nguyen and his wife Julie Banh since that date. The facility owners also own the building, which was constructed in 1976 (Finney County Assessor 2021). Although use of the building prior to 1991 is unknown, commercial stores are believed to have occupied it.

The dry cleaner is in the western portion of the 6,480-square-foot strip shopping center, a Little Caesars Pizza shop is at the eastern end, and a tobacco shop is between. Several residential properties are across the alley, immediately south of this facility.

Garden City Specialty Cleaners was registered with KDHE as a dry cleaner on February 23, 1996, and is listed as active. Two PWS wells are within 1 mile southwest of this facility. No previous investigations of this site have been identified (KDHE 2021).

Sterling Cleaning Center Norge Village – 605 Kansas Plaza

This was a laundromat and coin-operated dry cleaning facility that opened in about 1962 and closed in 1971. On November 8, 1971, the *Garden City Telegram* published an advertisement for an auction in the facility to occur on November 10, 1971; listed for auction were eight Norge commercial dry cleaners, two Norge sludge cookers, filtering systems, circulating pump, and 300 gallons of cleaning solvent for dry cleaners. The property now hosts an insurance agency. Tax assessor records citing the most recent assessment indicate ownership of the property by the Mayra Marquez Agency LLC; however, current records list the owner as James Rumback of Scott City, Kansas. The north (back) portion of the building has a 26- by 32-foot basement. A federally subsidized apartment complex (Pershing Manor) owned by the City is across the alley immediately north of the former dry cleaner. Single-family homes are within 200 feet south of the site and about 300 feet northeast and northwest.

This site is about 0.4 mile south of former PWS Well #10, which contained PCE in the 1990s. Three active and one inactive/emergency PWS wells are within 1 mile of the former facility. No previous investigations of this site have been identified (KDHE 2021).

Streeter Cleaners – 628 N. 8th Street

This is an active dry cleaner operating at this location since 1955. From about 1940 until 1955, Streeter Cleaners operated at 602 or 616 N. 8th Street, in the same area. The closest residential properties are immediately north of the facility, across an alley immediately east of the facility, and across N. 8th Street about 100 feet to the northwest.

Streeter Cleaners was registered with KDHE as a dry cleaner on February 23, 1998, and is listed as active. Lisa Harris is listed as the business owner, and Anthoney and Lisa Harris at the building address are listed as the property owners (Dun & Bradstreet 2021, Finney County Assessor 2021). This facility is about 0.8 mile southwest of the former Well #10. Three active and four inactive PWS wells (two for emergency use) are within 1 mile of the site. No previous investigations of this site have been identified (KDHE 2021).

2.5 CHARACTERISTICS OF TETRACHLOROETHENE

PCE is a chlorinated solvent with an ether-like odor, and also is used as a degreaser for metal parts (Agency for Toxic Substances and Disease Registry [ATSDR] 2020). At one time, PCE had been mixed with grain

protectants and certain liquid grain fumigants, but this application was no longer approved by 1980 (Meister Publishing Company 1980).

PCE was introduced as a dry cleaning solvent in 1934, and by 1948 had replaced carbon tetrachloride as the major chlorinated dry cleaning solvent used in the United States (petroleum solvents still dominated overall). By 1962, dry cleaning operations accounted for 90 percent of the PCE used in the United States, with peak use occurring in 1980 (State Coalition for Remediation of Drycleaners 2007). PCE degrades to TCE, which degrades to the *cis* and *trans* isomers of 1,2-dichloroethene (DCE), and to 1,1-DCE. These daughter products eventually degrade to vinyl chloride. PCE has low to moderate mobility in soil and may leach slowly to groundwater. Its solubility in groundwater is slight (0.15 grams per liter [g/L]) at 25 degrees Celsius (°C), and its specific gravity is 1.62 (Centers for Disease Control and Prevention [CDC] 2019). PCE tends to accumulate at greater depths with increasing distance from the source area. While TCE may be a degradation product, it was also used as a spot cleaner in dry cleaning.

PCE is a regulated contaminant with an established MCL of 5 µg/L.

3.0 PATHWAY EVALUATION

This section describes migration pathways of groundwater, surface water, soil exposure and subsurface intrusion, and air, and identifies obvious potential human and ecological targets.

3.1 GROUNDWATER MIGRATION PATHWAY

The City supplies a population of about 26,408 via a system of 17 active water supply wells, 14 completed in the Ogallala Formation of the Tertiary High Plains Aquifer, and the three remaining wells producing from the Dakota Sandstone Aquifer. Well depths of the High Plains Aquifer PWS wells typically are about 350 feet bgs. The three Dakota Sandstone Aquifer PWS wells are in Garden City and have depths ranging from 648 to 690 feet bgs.

Figure 3 shows selected wells within a 4-mile radius of the approximate center of five Garden City dry cleaner sites. The well locations used for the map are provided from information specified on the Kansas well construction forms. While Figure 3 may accurately locate newer wells, older well locations were converted to the Global Positioning System (GPS) latitude and longitude coordinates at the center of the smallest area identified within the Section, Township, and Range on the registration form. Consequently, accuracy of a given well location may be only to the nearest quarter-quarter section—a 40-acre area.

One domestic well is shown within 0.25 mile of the center of the 4-mile radius; however, no address appears on the registration form, and the actual location of that well cannot be identified (KDHE 2021). One PWS well is between 0.25 and 0.5 mile of the center. Two domestic wells and two domestic lawn and garden wells are also within 0.5 mile of the area center. Six municipal wells, nine domestic wells, and six domestic lawn and garden wells are within 0.5 to 1 mile from the area center. Residences outside of city limits largely rely on domestic wells, and numerous private wells are present within a 4-mile radius of the site center. Finney County RWD 1, the largest in western Kansas, serves about 2,000 people mainly west or northwest of Garden City. Finney RWD 1 purchases water from Wheatland Electric Cooperative (Wheatland), which has 16 wells, with two inside Garden City limits. Wheatland also provides groundwater to Garden City (*The Kansas Life* 2018, Finney County RWD 1 2020). Approximately 75 registered domestic wells are between 1 and 2 miles from the site center, 128 registered domestic wells are between 2 and 3 miles from the site center, and 118 registered domestic wells are between 3 and 4 miles from the site center.

The PCS did not include groundwater sampling. Without environmental sampling, a definitive assessment of likelihood of a release cannot occur. However, dry cleaner operations occurred at the sites at a time of wide use of PCE, and spills of dry cleaning fluids were common during the dry cleaning process. Impact of

a potential release on groundwater is possible because of shallowness of the water table in the area, with the Arkansas River nearby.

3.2 SURFACE WATER MIGRATION PATHWAY

Finney County is in the High Plains of southwestern Kansas and receives about 19 inches of precipitation annually. Natural drainage would generally be south to the Arkansas River; however, this river typically runs dry during summer months. Storm sewer drains are present along the City streets near the five dry cleaner sites, and site runoff would be to the nearby storm sewers. Given the low annual precipitation, sandy alluvial soils, and lack of perennial streams, runoff from the site would be unlikely to affect any surface water. According to the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) System, no wetlands are present on the five dry cleaner sites (USFWS 2021).

The PCS did not include surface water sampling. However, a release to surface water is unlikely because the five dry cleaner sites are in an urban area almost entirely covered with pavement or structures. Sandy alluvial soils and semi-arid conditions suggest that contamination at the surface likely would volatilize.

3.3 SOIL EXPOSURE AND SUBSURFACE INTRUSION PATHWAY

The PCS did not include soil sampling. Dry cleaner operations occurred for more than 20 years at four of the sites. The Sterling Cleaning Center was in business for only about 9 years; however, this was a Norge Village with eight coin-operated dry cleaning machines using PCE. Spills of dry cleaning fluids presumably were common during the dry cleaning process, and prior to introduction of disposal regulations, disposal of the waste PCE likely occurred to the ground or down the sewer. A contaminant release would likely pose a vapor intrusion concern at residences and businesses in the immediate area or downgradient of each site. Businesses are present in these areas, and residential properties are within 100 feet of four of the five dry cleaning sites. Potential targets associated with the subsurface intrusion component of this pathway include workers in commercial businesses and occupants of residential structures (including people living in apartments collocated with the businesses). Without environmental sampling, a definitive assessment of likelihood of a release cannot occur.

3.4 AIR MIGRATION PATHWAY

The PCS did not include air sampling. A release to ambient air is unlikely because contaminants in surface soil would be covered by buildings or the parking lot.

3.5 POTENTIAL HUMAN AND ECOLOGICAL TARGETS

Facility users include on-site workers, customers, and construction workers. No release has been identified at any of the five Garden City dry cleaner sites; however, the long history of dry cleaning operations at these sites suggest they pose a potential threat to targets. A PCS Checklist/Decision Form for each site is in Appendix B.

4.0 SUMMARY AND CONCLUSIONS

Objectives of the PCS were to: (1) review existing and relevant documents associated with the five dry cleaner sites in Garden City, Kansas; and (2) complete a PCS Checklist/Decision Form for each site. The PCS indicated likely occurrence of a release of VOCs to surface soil and groundwater, given the long history of dry cleaning operations at the five sites. Although chlorinated solvents such as PCE may not have been the principal dry cleaning solvents at a specific dry cleaner during its years of operation, PCE or other chlorinated solvents likely were used in spot treatment or other specialty cleaning processes. Assessment activities have not identified a definitive exposure risk to humans or endangered or threatened species, as no environmental sampling has occurred. Further CERCLA assessment is warranted at these sites.

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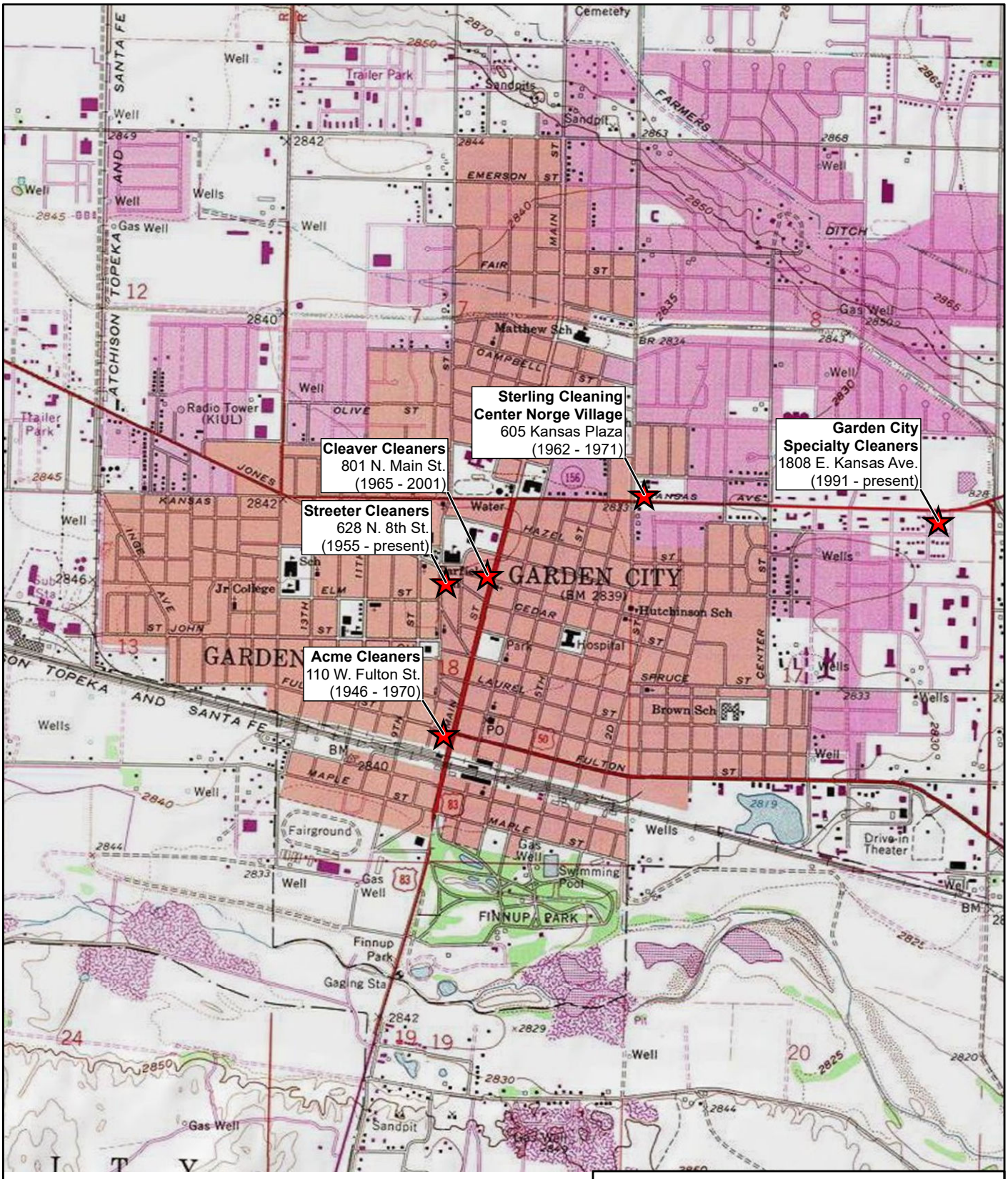
USGS. 1983b. 7.5-minute topographic map West Garden City, Kansas.

APPENDIX A

FIGURES



Source: USGS Garden City East, KS 7.5 Minute Topo Quad,1983;
USGS Garden City West, KS 7.5 Minute Topo Quad, 1983

Five Dry Cleaner Sites
Garden City, Kansas

Figure 1
Site Location Map

TETRA TECH

Date: 5/18/2021 Drawn By: Nick Wiederholt Project No: X903019F0065.003

X:\G\903\0\0065\0\03\Projects\mxd\Figure1.mxd

Legend

★ Dry cleaner location

N

0 425 850

Feet

Source: Esri, ArcGIS Online, World Imagery, 2018

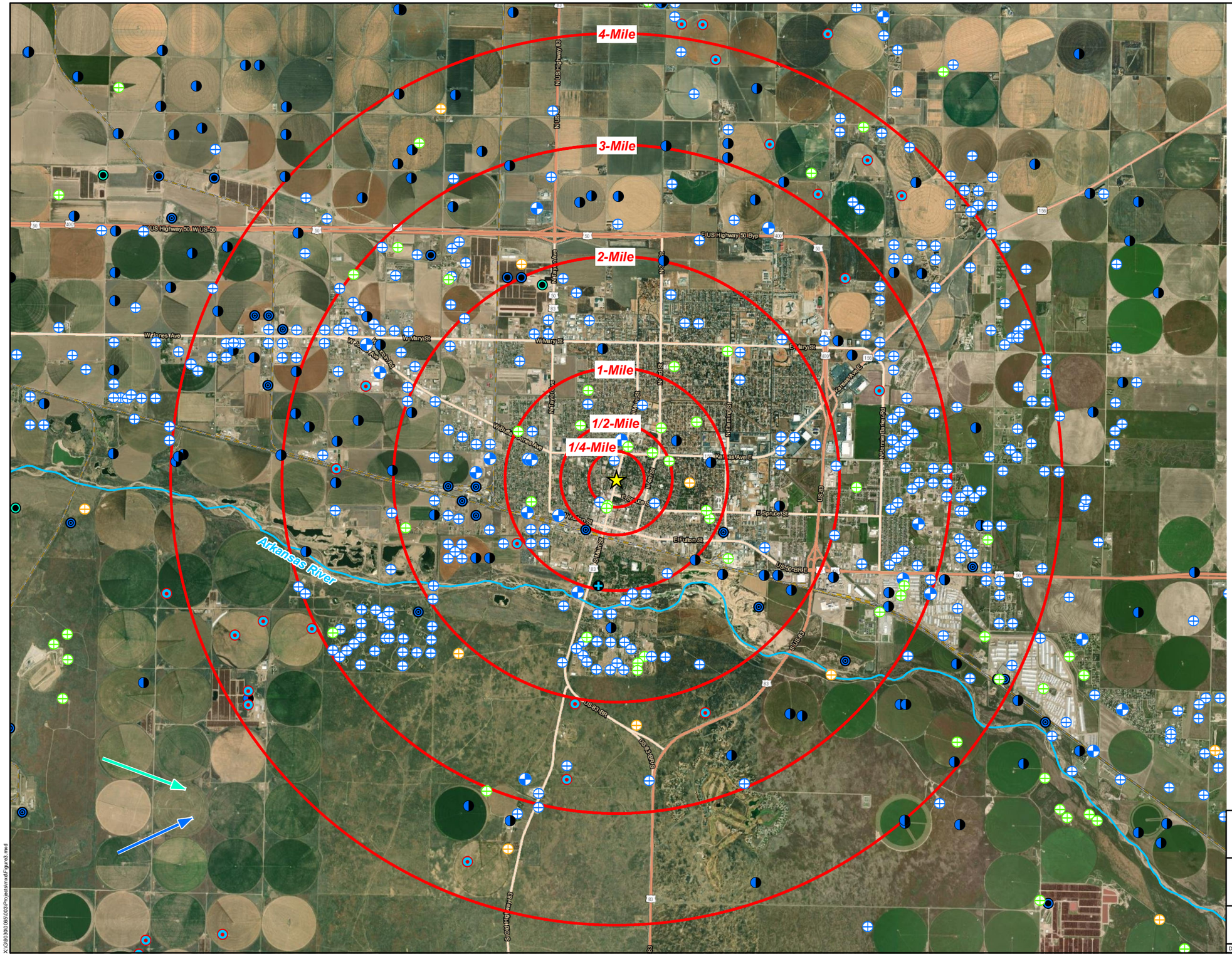
Five Dry Cleaner Sites
Garden City, Kansas

Figure 2
Site Layout Map

TETRA TECH

Date: 5/18/2021 Drawn By: Nick Wiederholt Project No: X903019F0065.003

X:\G\903019\0065\003\Projects\mxd\Figure2.mxd



Source: Esri, ArcGIS Online, World Imagery, 2018-2019;
Esri Data Maps, 2007;
Kansas Geological Survey,
Water Well Completion Records (WWC5), 2021

Five Dry Cleaner Sites
Garden City, Kansas

Figure 3

4-Mile Radius Well Map

TETRA TECH

Date: 5/13/2021 | Drawn By: Nick Wiederholt | Project No: X903019F0065.003

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APPENDIX B

PRE-CERCLA SCREENING CHECKLIST/DECISION FORMS

Pre-CERCLA Screening Checklist/Decision Form

This form is used in conjunction with a site map and any additional information required by the EPA Region to document completion of a Pre-CERCLA Screening (PCS). The form includes a decision on whether a site should be added to the Superfund program's active site inventory for further investigation. This checklist replaces Attachment A in the December 2016 PCS Guidance document. A current version of the PCS checklist and additional information is available at: https://www.epa.gov/superfund/pre-cercla-screening.

Region: 7 **State/Territory:** KS **Tribe:** _____ _____
EPA ID No. (If Available)

Site Name: Garden City Specialty Cleaners

Other Site Name(s): _____

Site Location: 1808 E. Kansas Avenue
(Street)

_____ Garden City KS FINNEY 67846 – _____ ☐
Congressional District (City) (State/Terr.) (County) (Zip+4) (No Zip Available)

If no street address is available: _____ _____
(Township-Range) (Section)

Checklist Preparer:
Jenna Mead 05/12/2021
(Name / Title) (Date)
Tetra Tech, Inc. (816) 412-1771
(Organization) (Phone)
415 Oak Street jenna.mead@tetratech.com
(Street) e-Mail
Kansas City MO _____ 64106-_____
(City) (State/Terr.) (County) (Zip+4)

Site Contact Info/Mailing Address: _____

CERCLA 105d Petition for Preliminary Assessment? No **If Yes, Petition Date (mm/dd/yyyy):** _____

RCRA Subtitle C Site Status: Is site in RCRA Info? No **If Yes, RCRA Info Handler ID #:** _____

Ownership Type: Private **Additional RCRA Info ID #(s):** _____

Site Type: Other **State ID #(s):** _____

Site Sub-Type: Dry-Cleaning Operations **Other ID #(s):** _____

Federal Facility? No **Federal Facility Owner:** (Make selection)

Formerly Used Defense Site (FUDS)? No

Federal Facility Docket? No **If Yes, FF Docket Listing Date (mm/dd/yyyy):** _____

Federal Facility Docket Reporting Mechanism: (Make selection)

Native American Interest? No **If Yes, list Tribe:** _____

Additional Tribe (s): (Make Selection)

Additional Tribe (s): (Make Selection)

Site Description

Use this section to briefly describe site background and conditions if known or (easily) available, such as: operational history; physical setting and land use; site surface description, soils, geology and hydrogeology; source and waste characteristics; hazardous substances/contaminants of concern; historical releases, previous investigations and cleanup activities; previous regulatory actions, including permitting and enforcement actions; institutional controls; and community interest.

The site is the location of a current dry cleaning facility at 1808 E. Kansas Avenue in Garden City, Kansas. Garden City Specialty Cleaners has operated at this location since 1991. The site is in the east central commercial area, with residential properties across an alley to the south.

In the Garden City area Arkansas River alluvium and loess overlies sands, silts, and gravels of the Tertiary Ogallala of the High Plains Aquifer, the principal aquifer in the County. Monitoring wells are in the Garden City area are about 39-70 feet deep and have water levels of about 31-55 feet below ground surface (bgs). Municipal wells producing from the Ogallala are about 350 feet bgs Soils belong to the Las clay loam that develop on sandy alluvium; however, they are generally covered by buildings and pavement. in this area. Surface runoff at the site is storm sewers along the street. The Arkansas River is south of Garden City, but usually runs dry in summers; consequently, no perennial streams are present in the area.

Geospatial Information

Latitude: 37.97449 **Longitude:** 100.85005

Decimal Degree North (e.g., 38.859156) **Decimal Degree West (e.g., 77.036783)**

Provide 4 significant digits at a minimum, more if your collection method generates them.

Except for certain territories in the Pacific Ocean, all sites in U.S. states and territories are located within the northern and western hemispheres and will have a positive latitude sign and negative longitude sign. Coordinate signs displayed above are based on the State/Territory entry on page A-1. Geospatial data tips from the PCS Guidance document are available **here**.

Point Description: Select the option below that best represents the site point for future reference and to distinguish it from any nearby sites. See additional information **here**.

- ☐ Geocoded (address-matched) Site Address
- ☐ Site Entrance (approximate center of curb-cut)
- ☐ Approximate Center of Site
- ☐ Other Distinguishing Site Feature (briefly describe):

Point Collection Method: Check the method used to collect the coordinates above and enter the date of collection. See additional information **here**.

- ☐ Online Map Interpolation
- ☐ GPS (handheld, smartphone, other device or technology with accuracy range < 25 meters)
- ☐ GPS Other (accuracy range is ≥ 25 meters or unspecified)
- ☐ Address Matching: Urban
- ☐ Address Matching: Rural
- ☐ Other Method (briefly describe below):

Collection Date (mm/dd/yyyy): 05/12/2021

POINT-SELECTION CONSIDERATIONS

- Often the best point is a feature associated with the environmental release or that identifies the site visually.
- Use the curb cut of the entrance to the site if there is a clear primary entrance and it is a good identifier for the overall location.
- The approximate center of the site (a guess at the centroid) is useful for large-area sites or where there are no appropriate distinguishing features.
- Use the geocoded address if that is the only or best option available, but if possible use something more representative for sites larger than 50 acres.

Complete this checklist to help determine if a site should be added to the Superfund Active site inventory. See Section 3.6 of the PCS guidance for additional information.	YES	NO	Unknown
1. An initial search for the site in EPA's Superfund active, archive and non-site inventories should be performed prior to starting a PCS. Is this a new site that does not already exist in these site inventories?	☐	☐	☐
2. Is there evidence of an actual release or a potential to release?	☒	☐	☐
3. Are there possible targets that could be impacted by a release of contamination at the site?	☐	☐	☐
4. Is there documentation indicating that a target has been exposed to a hazardous substance released from the site?	☐	☐	☐
5. Is the release of a naturally occurring substance in its unaltered form, or is it altered solely through naturally occurring processes or phenomena, from a location where it is naturally found?	☐	☐	☐
6. Is the release from products which are part of the structure of, and result in exposure within, residential buildings or business or community structures?	☐	☒	☐
7. If there has been a release into a public or private drinking water supply, is it due to deterioration of the system through ordinary use?	☐	☒	☐
8. Are the hazardous substances possibly released at the site, or is the release itself, excluded from being addressed under CERCLA?	☐	☒	☐
9. Is the site being addressed under RCRA corrective action or by the Nuclear Regulatory Commission?	☐	☒	☐
10. Is another federal, state, tribe or local government environmental cleanup program other than site assessment actively involved with the site (e.g., state voluntary cleanup program)?	☐	☐	☐
11. Is there sufficient documentation or evidence that demonstrates there is no likelihood of a significant release that could cause adverse environmental or human health impacts?	☐	☐	☐
12. Are there other site-specific situations or factors that warrant further CERCLA remedial/integrated assessment or response?	☐	☐	☐

Preparer's Recommendation: ☐ **Add** site to the Superfund Active site inventory.

☐ **Do not add** site to the Superfund Active site inventory.

Please explain recommendation below:

PCS Summary and Decision Rationale

Use this section to summarize PCS findings and support the decision to add or not add the site to the Superfund active site inventory for further investigation. Information does not need to be specific but, where known, can include key factors such as source and waste characteristics (e.g., drums, contaminated soil); evidence of release or potential release; threatened targets (e.g., drinking water wells); key sampling results (if available); CERCLA eligibility; involvement of other cleanup programs; and other supporting factors. Attach additional pages as necessary.

The PCS indicated a likely release of VOCs to soil and/or groundwater because of the history of dry cleaning operations at the site. Personnel assessing the site could not definitively identify exposure risk to humans or endangered or threatened species because no environmental sampling occurred. Further CERCLA assessment is warranted at the Garden City Specialty Cleaners site.

Jenna Mead	EPA contractor	05/12/2021
Checklist Preparer Name	**Checklist Preparer Organization**	**Date**

EPA Regional Review and Pre-CERCLA Screening Decision

Add site to the Superfund active site inventory for completion of a:

- ☐ Standard/full preliminary assessment (PA)
- ☐ Abbreviated preliminary assessment (APA)
- ☐ Combined preliminary assessment/site inspection (PA/SI)
- ☐ Integrated removal assessment and preliminary assessment
- ☐ Integrated removal assessment and combined PA/SI
- ☐ Other: _____

Do not add site to the Superfund active site inventory. Site is:

- ☐ Not a valid site or incident
- ☐ Being addressed by EPA's removal program
- ☐ Being addressed by a state cleanup program
- ☐ Being addressed by a tribal cleanup program
- ☐ Being addressed under the Resource Conservation and Recovery Act
- ☐ Being addressed by the Nuclear Regulatory Commission
- ☐ Other: _____

Optional - Print name of EPA Site Assessor making this decision: _____

EPA Regional Approval: (Enter Date and then click this box to initiate digital signature stamp)

Date _____

Site Description

(All text as entered on page A-2)

The site is the location of a current dry cleaning facility at 1808 E. Kansas Avenue in Garden City, Kansas. Garden City Specialty Cleaners has operated at this location since 1991. The site is in the east central commercial area, with residential properties across an alley to the south.

In the Garden City area Arkansas River alluvium and loess overlies sands, silts, and gravels of the Tertiary Ogallala of the High Plains Aquifer, the principal aquifer in the County. Monitoring wells are in the Garden City area are about 39-70 feet deep and have water levels of about 31-55 feet below ground surface (bgs). Municipal wells producing from the Ogallala are about 350 feet bgs Soils belong to the Las clay loam that develop on sandy alluvium; however, they are generally covered by buildings and pavement. in this area. Surface runoff at the site is storm sewers along the street. The Arkansas River is south of Garden City, but usually runs dry in summers; consequently, no perennial streams are present in the area.

PCS Summary and Decision Rationale

(All text as entered on page A-4)

The PCS indicated a likely release of VOCs to soil and/or groundwater because of the history of dry cleaning operations at the site. Personnel assessing the site could not definitively identify exposure risk to humans or endangered or threatened species because no environmental sampling occurred. Further CERCLA assessment is warranted at the Garden City Specialty Cleaners site.